

What is claimed is:

1. A method of fabricating memory with nano dots, the method comprising:
  - (a) sequentially depositing a first insulating layer, a charge storage layer, a sacrificial layer, and a metal layer on a substrate in which source and drain electrodes are formed;
  - (b) forming a plurality of holes on the resultant structure by anodizing the metal layer and oxidizing portions of the sacrificial layer that are exposed through the holes;
  - (c) patterning the charge storage layer to have nano dots by removing the oxidized metal layer, and etching the sacrificial layer and the charge storage layer using the oxidized sacrificial layer as a mask; and
  - (d) removing the oxidized sacrificial layer, depositing a second insulating layer and a gate electrode on the patterned charge storage layer, and patterning the first insulating layer, the patterned charge storage layer, the second insulating layer, and the gate electrode to a predetermined shape.
2. The method as claimed in claim 1, wherein the charge storage layer is formed of a material selected from the group consisting of Si, Si<sub>3</sub>N<sub>4</sub>, and Al<sub>2</sub>O<sub>3</sub>.

3. The method as claimed in claim 1, wherein the sacrificial layer is formed of Ta.

4. The method as claimed in claim 1, wherein the metal layer is formed of Al or Al alloy.

5. The method as claimed in claim 1, wherein the first and second insulating layers are formed of  $\text{Si}_3\text{N}_4$  and  $\text{Al}_2\text{O}_3$ , respectively.

6. The method as claimed in claim 1, wherein during (a), the first insulating layer, the charge storage layer, the sacrificial layer, the metal layer, and the second insulating layer are deposited by chemical vapor deposition (CVD), sputtering, or evaporation.

7. The method as claimed in claim 1, wherein during (c), the charge storage layer is patterned to have a dot array structure in which a plurality of cylinders are arranged, the cylinders being shaped like nano dots.

8. The method as claimed in claim 7, wherein the cylinders, which are shaped like nano dots, are arranged to form a honeycomb structure.